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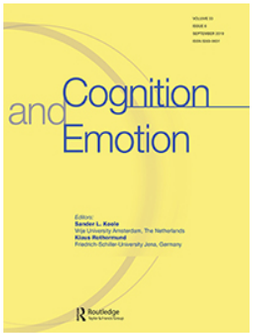

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Majority group children expect that ethnic out-group peers feel fewer positive but more negative emotions than in-group peers

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ABSTRACT

Across two studies majority group children's (8–13 years) perception of positive and negative emotions in ethnic in-group and disadvantaged ethnic out-group peers was examined. Study 1 ($N = 302$) showed that children expected in-group peers to feel better in a positive situation compared to out-group peers. Whereas, in a negative situation, children expected in-group peers to feel less bad compared to out-group peers, particularly when they evaluated the in-group as very positive. Study 2 ($N = 201$) replicates these findings across multiple positive and negative situations, and additionally shows that in very negative situations children expect in-group and out-group peers to feel equally bad. These results suggest that children's perception of emotions in others is influenced by ethnic group membership.

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One major challenge during childhood is to understand what other people are feeling, which is the focus of developmental studies on emotion understanding. As early as 4 months of age children notice emotional expressions in others (Montague & Walker-Andrews, 2001), by the age of three they start to recognise and name basic emotions, and around 8 years children understand people can have multiple or mixed emotions in response to a situation (reviewed in Herba & Phillips, 2004; Pons, Harris, & de Rosnay, 2004). Moreover, a better understanding of someone's emotional state is related to increased peer acceptance and popularity (e.g. Cassidy, Parke, Butkovsky, & Braungart, 1992) as well as empathy and cooperation in children (see Lagattuta, Hjortsvang, & Kennedy, 2014; Paulus & Moore, 2015). While it has long been recognised in social psychological research in adults that our relationships with other people shape how emotions are perceived (Fischer & Van Kleef, 2010), the developmental study of emotion understanding often does not include the relational context in which emotions are expressed (see also Herba & Phillips, 2004). As such, we know little about whether children's perception of emotions depends on *who* is experiencing or expressing these emotions.

Developmental intergroup research has shown that the various groups to which children belong exert strong influence on how children think and behave. By the age of four, children who belong to high-status groups express that they like ethnic in-group peers more than disadvantaged ethnic out-group peers (Raabe & Beelmann, 2011) and as they get older, children develop a better understanding of intergroup relations (e.g. Levy & Killen, 2008). It is important to understand whether children, growing up in increasingly multicultural societies, perceive emotion differently in in-group and out-group peers. This has potential implications for children's motivation to engage in social actions (e.g. help or befriend others) and it could create additional barriers for intergroup contact or lower the quality of intergroup interactions from an early age onwards. This in turn can perpetuate prejudice and discrimination over time as contact is important to ameliorate negative intergroup attitudes (Raabe & Beelmann, 2011).

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The current study takes a first step and examines how majority group children (8–13 years) perceive emotions in ethnic in-group and disadvantaged out-group peers. Across two studies, children were asked how they expected an ethnic in-group and an ethnic out-group peer to feel during typical daily life events that were either positive, negative (i.e. receiving an invitation to a birthday party, losing a game; Studies 1 and 2), or very negative (i.e. someone's cat is sick; Study 2). Thus, across these studies we define children's perception of intergroup emotions as their expectation of how in-group and out-group peers might feel. It could be that children expect in-group peers to experience more intense emotions (i.e. happier, more negative emotions) compared to out-group peers. Or children might be motivated to see their in-group in the most favourable light and therefore expect them to feel happier but *less* bad compared to out-group peers. Finally, majority group children's emotion perception might be unaffected by the ethnic group context. We discuss these possibilities each in turn.

Children attribute more intense emotions to in-group than out-group peers

When children think about the emotions in-group and out-group peers might feel in a given situation, identification with or similarity to this peer might guide their interpretation of the other peer's emotions. Specifically, feelings of similarity could enhance psychological connectedness and may facilitate understanding of how that person feels and acts (e.g. Batson, 2011; Meltzoff, 2007; Preston & de Waal, 2002). As a consequence, children might attribute more intense emotions to in-group peers compared to out-group peers. Some evidence for this exists in research with adults. For example, adults tend to attribute more intense emotions to in-group members than out-group members in the domain of pain perception (Avenanti, Sirigu, & Aglioti, 2010), and when it concerns feelings of sadness (Gutsell & Inzlicht, 2012) as well as other negative emotions (Neumann, Boyle, & Chan, 2013).

The idea that in-group members are perceived to experience more intense emotions also dovetails with some studies in children. Similar to adults, White children expect in-group peers to feel more pain than Black out-group peers (Dore, Hoffman, Lillard, & Trawalter, 2014, 2018). Moreover, 6-year old children are more likely to refer to mental states when talking about in-group compared to out-group behaviour and perceive in-group faces as more human compared to out-group faces (i.e. based on gender and geographic location; McLoughlin & Over, 2017; McLoughlin, Tipper, & Over, 2018). Seeing the in-group as more human might be related to a greater psychological connection to in-group peers and therefore children might attribute more intense emotions to in-group members. In addition, when White children are asked to categorise emotions felt by racial in-group and out-group peers, they attribute more secondary emotions (i.e. shame and guilt) to White in-group versus Black out-group peers (Costello & Hodson, 2014). Although none of these studies directly tested how children expect in-group and out-group peers to feel during positive and negative events, they do suggest that children might expect in-group peers to feel more intense emotions compared to out-group peers due to enhanced psychological connectedness. Specifically, this would mean that children expect in-group, compared to out-group peers, to feel happier when something positive happens to them. Moreover, when something negative occurs this would mean they expect in-group peers to feel worse than out-group peers.

Children attribute more favourable emotions to in-group than out-group peers

A second possibility is that children's social identity concerns guide their perception of emotions in an intergroup context. Social Identity Theory (Tajfel & Turner, 1979) postulates that people are motivated to enhance or maintain a positive and distinctive sense of their social self. This is achieved by positively differentiating one's in-group from a relevant out-group, so-called in-group favouritism. Developmental studies show that ethnic in-group bias is present in high-status children from an early age onwards (Raabe & Beelmann, 2011). While children might not always be spontaneously motivated to protect their social identity, this motivation does play a role when their social identity is salient (e.g. Sierksma, Thijs, & Verkuyten, 2014) or threatened (e.g. Nesdale, Maass, Durkin, & Griffiths, 2005). This could mean that children's interpretation of intergroup emotions is a function of their motivation to put the in-group in the best possible light compared the out-group. Consequently, they might perceive more favourable emotions in in-group compared to out-group peers.

As a case in point, adults more quickly recognise a happy face of a racial in-group than a happy face of an out-group member but are sometimes slower to recognise sadness and anger on in-group compared to out-group faces (Hugenberg, 2005; Hugenberg & Bodenhausen, 2003; but see Bijlstra, Holland, & Wigboldus, 2010). Furthermore, adults express being happy when out-group members experience negative emotions but feeling more negative when out-group members experience positive emotions (Epstude & Mussweiler, 2009). This finding is consistent with research by Seger, Smith, Kinias, and Mackie (2009), who asked adults to predict out-group emotions and compared these to actual emotion reports by these out-groups. Results showed that adults tended to underestimate positive emotions but overestimate negative emotions in out-groups. In addition, adults have been found to downplay feelings of guilt about the wrongdoings of their in-group (Doosje, Branscombe, Spears, & Manstead, 1998), also suggesting that their motivation to see the in-group positively influences emotions.

To our knowledge, no studies have specifically examined whether children's social identity concerns influence their emotion perception in intergroup contexts. Some developmental intergroup research that has included measures of emotion does suggest, however, that children's motivation to see their group in a positive light can influence their reasoning about emotions. For example, when reasoning about intergroup exclusion, children belonging to the majority group in Switzerland attribute different emotions to high-status peers who exclude others than do children who belong to a minority group. Specifically, minority children expected majority peers to be happier when excluding others (Malti, Killen, & Gasser, 2012). Moreover, Weller and Lagattuta (2013, 2014) have shown that children expect in-group peers to feel better about helping in-group compared to out-group peers in the racial and gender domain (although in the latter study this was not found for boys). In addition, children tend to feel more shame when a member of their group is bullied, compared to when a member of an out-group is bullied (Jones, Manstead, & Livingstone, 2009), which suggests that being bullied is threatening to a positive social identity and this effects children's own emotions. Although this work solely focused on children's perception of emotions in in-group peers (i.e. no comparison with how out-group peers might feel in the same situation, Weller & Lagattuta, 2013, p. 2104) or how children might feel themselves, it suggests that social identity concerns could be important in the emotions children perceive in others.

In sum, children might attribute more favourable emotions to in-group compared to out-group peers. As such, their perception of emotions in an intergroup context could be biased toward attributing more negative emotions or fewer positive emotions to out-group compared to in-group peers. In a positive situation, this might simply mean that children expect in-group peers to feel better compared to out-group peers, whereas in a negative situation they might expect out-group peers to feel worse than in-group peers.

Ethnic group membership does not influence emotion perception

It is also important to note that children (and adults) do not always attribute different (levels of) emotions to in-group than out-group peers. For example, Costello and Hodson (2014) did not find that children attributed primary emotions differently according to racial group membership. Moreover, Martin, Bennett, and Murray (2008) showed that children (6–7 and 10–11 years of age) did not predict that national in-group or out-group peers would feel differently immediately after winning or losing a game. Similarly, some research suggests that adults and children experience equal levels of empathy for in-group and out-group members, which could indicate that they might assign equally intense emotions to them. For example, White and Asian adults expressed that they could equally easily empathise with racial in-group and out-group members when it concerned positive emotions (Neumann et al., 2013) and adults have been shown to experience similar levels of empathy for in-group and out-group members in need of help (for an overview see Stürmer & Siem, 2017). Likewise, in a friendship context, children expected in-group and out-group peers to feel just as sad about needing help (Sierksma, Thijs, & Verkuyten, 2015). This might mean that the ethnic group context does not influence emotion perception.

Hypotheses

In sum, based on previous research we can formulate three plausible hypotheses for the present research. On the one hand, following the first perspective, children might feel a more psychological connectedness with in-group than out-group peers, which may

facilitate an understanding of how that person feels. Therefore, we could predict that children expect in-group peers to feel more positive *and* negative emotions compared to out-group peers. On the other hand, based on research focusing on social identity motives, we could predict that children might expect in-group peers to feel more positive emotions, but fewer negative emotions compared to out-group peers. Last, ethnic group membership might not influence children's perception of emotions in in-group and out-group peers.

The previous studies conducted on intergroup emotions in adults and children offer insight into how children might perceive in-group and out-group emotions. These different domains of research have informed the present research, but it is important to note that our goal here is not to test these as competing models. Rather, this research offers a first step in understanding whether and how children differentiate at all in their perception of intergroup emotions.

In-group and out-group evaluation

The current research also considers the role of children's in-group favouritism and out-group negativity as possible underlying mechanisms of their perception of intergroup emotions. In adults, identification with the in-group is often a crucial component for group-based emotions (e.g. Doosje et al., 1998; Iyer & Leach, 2008; Mackie & Smith, 2015). This might mean that if the group context influences how majority group children perceive intergroup emotions, this will emerge particularly in children that show stronger in-group favouritism or stronger out-group negativity. For example, children who show stronger in-group positivity might be especially motivated to understand how in-group peers feel and as such perceive more intense happiness and sadness in them compared to out-group peers. However, stronger in-group favouritism is typically associated with more in-group-oriented behaviour and the motivation to protect the in-group from threats (Mackie & Smith, 2015; Nesdale et al., 2005) and this might thus lead children to perceive more favourable emotions in in-group peers and unfavourable emotions in out-group peers. It could also be that out-group negativity guides children's perception of intergroup emotions or that intergroup evaluations could be of particular importance only when children actually evaluate the in-group much more positively compared to out-group peers (i.e. a difference score).

Overview of the present research

The current research focuses on Dutch children's perception of emotions in in-group and Turkish out-group peers. Many people from Turkey came to the Netherlands in the 60s as guest workers, and they are currently one of the three largest non-western minority groups in the Netherlands (Statistics Netherlands, 2016). It is therefore likely a familiar out-group for Dutch children. Children evaluate the Turkish negatively (Sierksma et al., 2014) and attribute a disadvantaged status to them (Verkuyten & Kinket, 2000) compared to the Dutch in-group. The children studied probably do not have much direct contact with Turkish–Dutch peers, because they all attended schools in which the large majority of children had a native Dutch background.

The children studied were aged between 8 and 13 years. Children this age have a well-developed understanding of emotions (e.g. Pons et al., 2004) and intergroup relations (e.g. Levy & Killen, 2008). At the same time, there are still developmental changes in how and when children this age prioritise groups in their reasoning (e.g. Killen, Rutland, Abrams, Mulvey, & Hitti, 2013) and what children know about groups in their society (e.g. McKown & Weinstein, 2003). This developmental pattern means interventions aimed at preventing group-based biases can take advantage of children's sophisticated intergroup knowledge while these are still less rigid than those of adults. This research thus offers valuable insight about how to change group bases biases, especially because interventions aimed at younger children are often ineffective (see Aboud et al., 2012). However, because children have advanced emotion and group knowledge, we did not expect to find age differences in the current studies.

Study 1

For both studies, we report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures.

Method

Participants and design

Recommendations of Cohen (1992) were followed to estimate the sample size of the current studies beforehand, resulting in a minimum of 64 participants per cell such that there was an 80% chance to detect a

medium-sized effect for the group context at an alpha level of .05. Because this survey was, however, part of a larger survey we collected data for a total of 401 children of seven schools. For the analyses, we selected the 321 children who indicated that their parents were of Dutch origin and who self-identified as Dutch. Children came from schools where the majority of children was native Dutch. Moreover, a total of 19 children had missing values on some measures. The final sample consisted of 302 children, aged between 8 and 13 years ($M = 10.61$, $SD = 0.96$) and 50.2% were female.

Children read two short stories. A 2 (in-group vs. out-group; between subjects) by 2 (positive vs. negative event; within subjects) design was used. Gender of the protagonist was counterbalanced across stories and between participants (i.e. each participant either read a positive story about a boy and a negative story about a girl, or a positive story about a girl and a negative story about a boy).

Materials and Procedure

Children were tested in their classroom under the supervision of a research assistant and their teacher. They were given a short booklet and always first answered questions about positive emotions, followed by negative emotions and after several measures unrelated to the present research, reported their in-group and out-group evaluation. Only children with parental consent participated. At the time of data collection ethical approval was not required for non-invasive survey research at the institute where the research was conducted. However, the research described adheres to APÁs ethical principles of psychologists and code of conduct and ethical approval was obtained for Study 2, which closely resembles the materials and procedure of Study 1.

Stories. Two stories were designed that represented everyday life experiences for children. Children's positive emotion rating was measured with: "Saskia is a Dutch girl. She has lived in the Netherlands all her life and all of her friends are Dutch. During the school break, a girl asks her if she would like to come to her birthday party this weekend". For the negative event children read "Tim is a Dutch boy. He has lived in the Netherlands all his life and all of his friends are Dutch. He is playing a card game with his friends. He loses".

Ethnic group membership. Similar to previous research (Sierksma et al., 2014), group membership of the protagonist was varied by using typical Turkish names (Mohammed for a boy and Naima for a girl) and by describing the peer's ethnicity and those of his or her friends as either Dutch or Turkish, and country where he or she lived as The Netherlands or Turkey. Previous research shows that individual exemplars of an ethnic category elicit intergroup considerations in children (e.g. Sierksma, 2018; Weller & Lagattuta, 2013). To enhance the salience of the intergroup context (see Sierksma et al., 2014), before reading the stories, children were first asked to which group they belonged. They could choose from "Dutch", "Turkish" or "Other".

Manipulation check. To check to what extent children perceived the peer as an in-group or out-group members, after each story they were asked: "How similar is (*name*) to you?". Answers were given on a 5-point scale ranging from "not at all" (1) to "in between" (3) to "very much" (5).

Emotion rating. Subsequently, children were asked: "How do you think he (OR she) feels?". For each story, children were asked to rate 3 emotions on a 5-point scale ranging from "no, absolutely not" (1) to "in between" (3) to "yes, very much" (5). For the positive event, we used three synonyms of the word happy in Dutch (i.e. blij, gelukkig, vrolijk). For the negative event, three emotions that were synonyms for sad were used (i.e. verdrietig, vervelend, rot). Note that higher scores thus represent that children attributed a *more* intense emotion. Emotion ratings for each story were all significantly correlated (ranging from .40 to .78) and therefore mean scores were computed for the positive and negative event.

In-group and out-group evaluation. Children evaluated the Dutch in-group and Turkish out-group ("What do you think of Dutch/Turkish people?") on a 7-point smiley face scale ranging from very happy smile (1) to a large frown (7). This scale has been validated by Yee and Brown (1992) and extensively and successfully used in previous research (e.g. Sierksma et al., 2014, 2015). The scale was recoded such that a higher score indicates a more positive in-group or out-group evaluation. We computed a difference score by subtracting children's out-group evaluation from children's in-group evaluation.

Analyses

The data have a nested structure of stories nested in children nested in schools. Therefore, a linear mixed model was specified in MLwiN 3.01 (Charlton, Rasbash, Browne, Healy, & Cameron, 2017) with three levels (level 1: stories, level 2: children, level 3: schools). To examine children's intergroup emotion ratings for each event, two orthogonal contrasts were specified that denoted the difference between an in-group (coded "1") and out-group peer (coded "–1"). All continuous measures were standardised. Thus, independent variables were the two contrasts and in-group and out-group evaluation, and the dependent variable was children's emotion ratings. MlWin does not provide effect sizes but standardised beta's can be compared.

Results

Children predicted that the protagonist in the positive story felt happy ($M = 3.95$, $SD = 0.78$) and significantly above the midpoint of the scale, t (301) = 21.10, $p < .001$. For the negative story, children predicted the protagonist would feel somewhat bad ($M = 2.56$, $SD = 0.82$) and significantly under the midpoint of the scale, t (301) = –9.26, $p < .001$. Children evaluated the Dutch in-group very positively ($M = 6.61$, $SD = 0.71$) and more positively than the Turkish out-group ($M = 4.64$, $SD = 1.63$), t (301) = 20.06, $p < .001$.

The group context manipulation was successful because children felt more similar to in-group peers compared to out-group peers, both when the story involved a positive event ($\beta = .35, p < .001$) and a negative event ($\beta = .17$, $p = .003$). No main or interaction effects were found for children's age (continuous predictor) or gender. Therefore, these variables were not included in the model.

Emotion ratings

A significant main effect was found for the contrast representing the group context when a positive event occurred ($p = .03$; see Table 1). This suggests that children expected in-group peers to feel better ($M = 4.03$, $SD = 0.85$) compared to out-group peers ($M = 3.86$, $SD = 0.76$) when something positive happened. In addition, a significant main effect was found for the group context when a negative event occurred ($p = .002$): children expected in-group peers to feel *less* bad ($M = 2.42$ $SD = 0.84$) compared to out-group peers ($M = 2.76$, $SD = 0.93$) when something negative happened.

Table 1. Multilevel results for Study 1.

	β	SE
Contrast positive emotions	.12*	0.06
Contrast negative emotions	–.17**	0.06
In-group evaluation	.09	0.08
Contrast positive emotions * in-group evaluation	.01	0.06
Contrast negative emotions * in-group evaluation	–.14*	0.06
Out-group evaluation	.07	0.04
Contrast positive emotions * out-group evaluation	.06	0.06
Contrast negative emotions * out-group evaluation	–.01	0.06

Note: *$p \leq .05$, **$p \leq .01$, two tailed.

Intergroup evaluations. For children's in-group evaluation, there was no main effect or interaction with the contrast representing intergroup emotion ratings for the *positive* event. However, in-group evaluation did interact significantly with children's intergroup emotion rating in the *negative* event ($p = .01$, see Figure 1). Simple slope analysis showed that when children were very positive about the in-group (1 *SD* above the mean), they expected out-group peers to feel worse compared to in-group peers (β=–.31, p <.001). Whereas, when children were less positive about the in-group (1 *SD* below the mean), they expected in-group and out-group peers to feel equally bad (β=–.04, p =.63). Moreover, children's in-group evaluation was significantly related to their expectation that out-group peers would feel worse ($\beta = .15$, $p = .01$) but not to their prediction about in-group emotions ($\beta = .02$, $p = .71$). This suggests that stronger in-group positivity is related to children's expectation that out-group peers feel more negative emotions compared to in-group peers during a moderately negative event. When children's out-group evaluation or a difference score (in-group evaluation – out-group evaluation) was entered no main or interaction effects emerged.

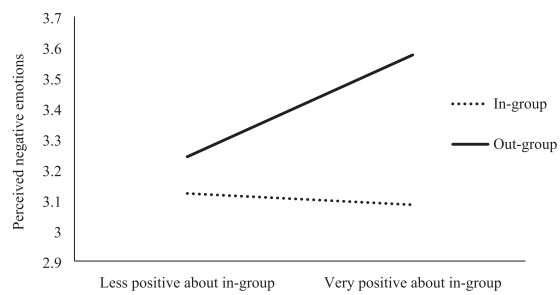

Figure 1. The influence of children's in-group evaluation on their perception of moderately negative emotions in in-group and out-group peers, Study 1.

Discussion

In Study 1, we examined how ethnic group membership influenced children's perception of emotions in positive and negative situations. The results show that majority group children expect ethnic in-group peers to feel happier compared to disadvantaged ethnic out-group peers when they are invited to a birthday party. For the negative event, however, children expected in-group peers to feel fewer negative emotions than out-group peers. These results clearly show that ethnic group membership influences emotion perception but are opposed to the idea that children might perceive more intense emotions in in-group than out-group peers because they more easily understand them (e.g. Batson, 2011; Meltzoff, 2007; Preston & de Waal, 2002). However, the findings are in line with the Social Identity Theory (Tajfel & Turner, 1979) and studies that show that adults more easily perceive positive emotions in the in-group and more easily perceive negative emotions in out-group members (e.g. Epstude & Mussweiler, 2009; Hugenberg, 2005; Seger et al., 2009).

That social identity motives might play a role in children's intergroup emotion perception is further corroborated by the exploratory analyses for children's intergroup evaluations. Specifically, children who evaluated their in-group relatively positively, expected out-group peers to feel more negative emotions compared to in-group peers in a negative situation. In comparison, children who were relatively less positive about the in-group, expected in-group and out-group peers to feel equally bad when something negative occurred. Moreover, children's in-group positivity was only related to their perception of out-group emotions and did not influence their perception of in-group emotions. This suggests that children with stronger in-group favouritism are motivated to maintain a positive in-group identity. And one way to positively differentiate the in-group from the out-group is to attribute more negative emotions to out-group peers. Interestingly, children's in-group evaluation did not influence their perception of emotions in a positive situation. Moreover, children's out-group evaluation or a difference score did not influence their perception of intergroup emotions in negative and positive situations. This suggests that in-group favouritism is the most important moderator but only for children's perception of intergroup emotions in negative situations.

Study 2

Study 2 was conducted with three goals. First, we aimed to replicate the findings of Study 1 and therefore included the same stories and children's intergroup evaluations. Second, to establish whether the results generalise across various positive and negative events, we included two additional stories (1 positive and 1 negative event).

The third goal was to further understand children's perception of negative intergroup emotions. Specifically, in Study 1 the means for children's ratings of positive and negative emotions different because children on average did not perceive the protagonist to feel very bad but did perceive peers to be quite happy. It might be the case that the extent to which in-group protection motives drive emotion perception depends on the intensity of the negative emotions. On the one hand, following our reasoning about the findings of Study 1, a more negative event could be perceived as more threatening to positive in-group distinctiveness. Therefore, children might expect out-group peers to feel worse compared to in-group peers. On the other hand, research in adults and children shows that in-group biases are more likely to emerge in ambiguous situations or when the situation allows for the rationalisation of prejudice (e.g. McGlothlin & Killen, 2006; Saucier, Miller, & Doucet, 2005). This could mean that when children are presented with a situation in which most children will clearly feel very negative, they will predict that in-group and out-group peers feel equally negative.

Method

Participants and design

Five schools took part in Study 2. This study was part of a larger survey aimed only at children in grade 5 and 6, therefore we did not test children in grade 4 for this study. A total of 237 were tested and 201 children indicated they identified as Dutch and their parents were Dutch. Children were aged between 9 and 13 years ($M = 10.85$, $SD = 0.84$), and 45.8% were girls. Children all came from schools with a high percentage of native Dutch children given that only 36 children did not identify as Dutch.

A 2 (in-group vs. out-group; between subjects) by 3 (event: positive, moderately negative, very negative; within subjects) design was used. The protagonist' gender was counterbalanced across stories and

within participants (i.e. for each type of event children read one story about a girl and one about a boy). Moreover, for each type of event 2 stories were used.

Materials and Procedure

Children were tested individually by a research assistant in a mobile lab. They answered the questions on a laptop and the experiment was programmed in Inquisit 4 (2015). Children always first rated the emotions for the six stories and, after several unrelated measures, reported their in-group and out-group evaluation. Only children with parental consent participated and ethical approval for the study was obtained (project nr. ECSW2015-2206-321).

Stories. In addition to the two stories of Study 1, a new story for the positive event ("Tim is a Dutch boy. He has lived his whole life in the Netherlands and all of his friends are Dutch. After school, he walks home. Then he finds 1 euro at the road") and moderately negative event ("Eva is a Dutch girl. She has lived her whole life in the Netherlands and all of her friends are Dutch. After school, she wants to bike home, but her tire is flat") were included. For a very negative event, the stories were "Sofie is a Dutch girl. She has lived her whole life in the Netherlands and all her friends are Dutch. When she comes home after school she wants to pet her kitten. But her kitten is sick and needs to go to the vet" and "Daan is a Dutch boy. He has lived his whole life in the Netherlands and all of his friends are Dutch. He is playing soccer. He sprains his ankle. His ankle gets all swollen and blue".

Ethnic group membership. The manipulation of ethnic groups members was identical to Study 1 and the manipulation check was no longer included. Again, to heighten salience of the group context, before reading the stories, children answered to which group they belonged (Dutch, Turkish, other).

Emotion ratings. After each story children rated the same positive or negative emotions as in Study 1 and within each type of event, emotion ratings were again significantly correlated (ranging from $r = .21$ to $r = .66$). Therefore, a mean score was computed for the positive, moderately negative and very negative events.

Analyses

The analyses were identical to Study 1, but now also included a contrast for the very negative event. Thus, linear mixed models were run in which the dependent variable was children's emotion ratings and the independent variables were the three contrasts for the ethnic group context and children's intergroup evaluations.

Results

Children expected peers to feel happy when a positive event occurred ($M = 4.08$, $SD = 0.55$), above the neutral midpoint of the scale, $t(200) = 27.81$, $p < .001$. The negative event did not differ significantly from the neutral midpoint of the scale ($M = 3.01$, $SD = 0.55$), $t(200) = 0.13$, $p = .90$. For the very negative event, children expected peers to feel bad ($M = 4.15$, $SD = 0.53$), above the neutral midpoint of the scale, $t(200) = 30.55$, $p < .001$. As intended, children expected peers to feel worse in case of very negative events compared to the moderately negative events, $t(200) = -28.56$, $p < .001$. Moreover, children evaluated the Dutch in-group more positively compared to the Turkish out-group (respectively, $M = 6.47$ ($SD = 0.75$) and $M = 5.41$ ($SD = 1.34$), $t(200) = 11.85$, $p < .001$).

There were no main or interaction effects for children's gender and age. Moreover, there were no differences between stories within each event. Therefore, these variables were not included in the model.

Emotion ratings

A main effect was found for the contrast representing the group context in a positive situation ($p = .04$, see Table 2). Replicating the findings of Study 1, children expected in-group peers to feel better compared to out-group peers when something positive happened to them (in-group: $M = 4.16$, $SD = 0.56$; out-group: $M = 4.00$, $SD = 0.53$). For moderately negative emotions, again a main effect emerged for the group context

Table 2. Multilevel results for Study 2.

	β	SE
Contrast positive emotions	.11*	0.05
Contrast negative emotions	−.12*	0.05
Contrast very negative emotions	−.07	0.05
Difference score in-group out-group evaluation	.03	0.04
Contrast positive emotions * difference score	−.04	0.05
Contrast negative emotions * difference score	−.09^{+}	0.05
Contrast very negative emotions * difference score	−.06	0.05

Note: *$p < .05$, $^{+}$ $p = 0.07$, two tailed.

($p = .028$): children expected out-group peers to feel worse compared to in-group peers when a negative event occurred (in-group: $M = 2.92$, $SD = 0.59$; out-group: $M = 3.09$, $SD = 0.51$). The contrast for children's ratings of in-group and out-group emotions when something very negative happened, did not result in a main effect (p =.15). This suggests that children expected in-group and out-group peers to feel equally bad (in-group: $M = 4.10$, $SD = 0.56$; out-group: $M = 4.19$, $SD = 0.50$) when something very negative happened.

In-group and out-group evaluation. Next, we explored whether intergroup evaluations affected children's ratings of emotions. Similar to Study 1, children's emotion perception of the *positive* event was not influenced by their in-group or out-group evaluation, or a difference score. For children's emotion perception of the *moderately negative* event, again no effect was found for children's out-group evaluation. Moreover, and in contrast to Study 1, children's in-group evaluations also did not influence their perception of emotions in in-group and out-group peers in moderately negative situations. Only a marginally significant interaction for a difference score and the group context emerged ($p = 0.07$) for children's perception of emotions during moderately negative events. Simple slope analysis showed that when the difference between children's in-group and out-group evaluation was large (1 *SD* above the mean), they expected out-group peers to feel worse compared to in-group peers (β= −.21, $p = .005$). Whereas, when the difference between children's in-group and out-group evaluation was small (1 *SD* below the mean), they expected in-group and out-group peers to feel equally bad (β=−.02, $p = .75$). Moreover, the difference score was somewhat related to their expectation that out-group peers would feel negative emotions (β=−.09, $p = .08$), but not to their prediction about in-group emotions ($\beta = -.04$, $p = .42$). Lastly, children's emotion perception of the *very negative* event was not influenced by their in-group evaluation, out-group evaluation or the difference score.

Data studies 1 and 2 combined

To better understand whether children's intergroup evaluations influence emotion ratings and in what form (i.e. difference score or solely in-group evaluation) we combined the data for Study 1 and 2 for children's ratings of emotions in positive and moderately negative situations. Across the two studies, children ($N = 503$) expected in-group peers to feel more positive emotions in positive situations than out-group peers ($\beta = .10$, $p = .023$) and expected out-group peers to feel more negative emotions compared to in-group peers in moderately negative situations ($\beta = -.13$, $p = .003$). For intergroup evaluations only one marginal significant effect emerged: children's in-group evaluation was related to their ratings of intergroup emotions in moderately negative situations ($\beta = -.09$, $p = .05$). Simple slope analysis suggested that when children were very positive about their in-group (1 *SD* above the mean) they expected out-group peers to feel more negative emotions than in-group peers ($\beta = -.22$, $p < .001$), whereas when children were less positive about the in-group (1 *SD* below the mean) they expected in-group and out-group peers to feel similarly negative ($\beta = -.04$, $p = .48$). Moreover, in moderately negative situations, in-group evaluation was positively related to children's perception of out-group emotions ($\beta = .15$, $p < .001$) but not related to their perception of in-group emotions ($\beta = .01$, $p = .89$).

Summary

Study 2 shows that children expect in-group peers to feel more positive emotions in positive situations but feel fewer negative emotions than out-group peers in moderately negative situations. Ethnic group membership of the protagonist no longer plays a role when something very negative happens. For the influence of intergroup evaluations, we combined the data for Studies 1 and 2 and see that children who are very positive about the in-group, expect out-group peers in moderately negative situations to feel more negative emotions than in-group peers, whereas children who are less positive about the in-group do not differentiate. Children's perceptions of positive and very negative emotions were not influenced by their in-group evaluations, and out-group evaluation or a difference score did not have a significant impact either.

General discussion

Children grow up in increasingly multicultural societies, and emotion perception can have a crucial impact on whether children want to interact with or avoid peers (e.g. Lagattuta et al., 2014; Paulus & Moore, 2015) and positive intergroup contact fosters social solidarity and prevents prejudice and

discrimination (Raabe & Beelmann, 2011). While a large literature is devoted to emotion understanding in children, there is a paucity of empirical studies that take into account how children's perception of emotions depends on *who* is experiencing these emotions. The present research breaks new ground by showing that the ethnic intergroup context is an important factor in majority group children's perception of emotions.

For moderately negative situations, the results show that children are consistently biased in their perception of emotions experienced by ethnic in-group and disadvantaged out-group peers. For both studies, we show that children expected in-group peers to feel *fewer* negative emotions compared to out-group peers. Moreover, when the data for Studies 1 and 2 are combined, results show that children who were more positive about the in-group were particularly likely to indicate that out-group peers would feel more negative emotions than in-group peers in moderately negative situations. Although this finding was only marginally significant and should thus be interpreted with caution. Thus, rather than perceiving more negative emotions in a much-liked in-group, children's in-group favouritism might have guided them to attribute more negative emotions to out-group peers. These findings are in line with a social identity perspective (Tajfel & Turner, 1979) and suggest that children, in identical moderately negative situations, attribute more negative emotions to ethnic out-group compared to in-group peers.

The results of Study 2 also provide insight into a boundary condition for the influence of social identity concerns in majority group children's perception of intergroup emotions in negative situations. Namely, when a situation occurs that is unambiguously very negative, children expect ethnic in-group and out-group peers to feel equally bad. This suggests that for very negative situations, social identity concerns no longer affect majority group children's perception of intergroup emotions. Why might this be? At least two accounts can explain the absence of bias in children's perception of emotions for very negative situations. It could be that for group-based biases to emerge in the perception of emotions, these emotion expressions do need to allow for some individual variability in everyday life. Given that children this age probably know very negative situations almost always elicit very negative emotions in people, it is likely that they genuinely think that such emotions do not depend on *who* is experiencing these emotions. This explanation resonates with findings in the helping domain that show that when the need for help is high, children think others need equal levels of help independent of who they are (i.e. friend, family, stranger) (Miller, Bersoff, & Harwood, 1990). Another explanation is that unambiguous situations do not allow for the rationalisation or denial of prejudice and therefore children hide their group-based biases. This is in line with research that shows that children this age often do not show bias on explicit measures but do in ambiguous situations or when implicit measures are used (e.g. Dunham, Baron, & Banaji, 2006; McGlothlin & Killen, 2006; but see Williams & Steele, in press).

The results for children's perception of intergroup emotions in positive situations are also in line with a social identity perspective. Across the two studies and multiple positive situations, children expected ethnic in-group peers to feel better than ethnic out-group peers. This suggests that similar to children's perception of emotions in moderately negative situations, children were motivated to attribute more favourable emotions to in-group compared to out-group peers in positive situations. However, in both studies, children's intergroup evaluations did not influence their perception of positive intergroup emotions. Potentially, this might be due to a methodological reason. The majority of children in each study expected peers to feel happy when something positive occurred and expressed strong in-group favouritism. As such there might have been a ceiling effect for these measures combined. To increase variability in children's in-group evaluation, future studies should consider testing the influence of other group contexts that lead to more variation in how much children like their in-group (e.g. European group membership, school classes) or focus on a more diverse sample. Another suggestion would be to include more ambiguous positive situations. This is also important, because although in the positive events children expected peers to be very happy and this thus possibly was an unambiguous situation, group-based biases still emerged. This suggests that the boundary condition for social identity concerns to motivate majority group children's perception of positive emotions may differ from children's perception of negative emotions in others. Alternatively, it is important to include very positive events as well, because if our reasoning for very negative emotions holds, this would mean that ethnic bias should not emerge for very positive emotions either.

However, the differential influence of children's in-group favouritism for perceiving positive and moderately negative emotions could also indicate that distinct motivations underlie majority group children's perceptions of emotions in positive and moderately negative situations. The presence of negative emotions might be perceived as more threatening to a positive social identity compared to (the absence of) positive emotions. This is in line with research showing that the experience of negative situations and emotions compared to positive ones, has longer lasting and more profound effects on people, that people tend to perceive negative emotions as more important than positive ones, and that people have a tendency to avoid or escape negative emotions (for an overview see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). This so-called negativity bias is already found in infants (Vaish, Grossmann, & Woodward, 2008). As such, negative emotions might activate social identity concerns more readily and as a consequence children are motivated to protect the in-group, especially when in-group favouritism is strong (e.g. Nesdale et al., 2005). Whereas, situations that elicit positive emotions might not trigger a threat to social identity and therefore other motivations emerge. One such likely mechanism is then that children assign more intense emotions to in-group members because they empathise more with them compared to out-group members during positive events. Future work should include measures or manipulations of experienced threat to social identity and experienced empathy to better distinguish between both mechanisms in children's perception of intergroup emotions.

Relatedly, the findings for moderately negative emotions are not in line with the general assumption that we often ascribe more intense emotions or empathise more (easily) with similar compared to dissimilar others (e.g. Batson, 2011; Meltzoff, 2007; Preston & de Waal, 2002) as well as empirical support for this in children and adults (e.g. Avenanti et al., 2010; Dore et al., 2014; 2018; Gutsell & Inzlicht, 2012; Neumann et al., 2013). One reason for this might be that we used stories instead of presenting children with more vivid situations (i.e. video-clips, pictures) and therefore co-feeling was not elicited. The absence of perceiving more intense emotions for the in-group could also be due to the type of emotions studied in the current research. Perhaps perceiving more intense emotions in in-group members is more easily triggered for highly arousing emotions (e.g. pain, anger) compared to emotions that can be less arousing (e.g. to be a little sad; see Baumeister et al., 2001). One implication of this is that future studies have to more carefully delineate different types of emotions as well as the way these are measured. This would also offer a chance to better understand when and how social identity concerns emerge in children's intergroup emotion perception. Because it is likely that these emerge especially when the emotion or situation is central to the particular identity that is salient (e.g. ethnic identity probably activates other emotions that group contexts based on sports; see Smith & Mackie, 2016).

Another important avenue for further research is to assess how minority children, such as the Turkish perceive positive and negative intergroup emotions. Previous research shows that children who belong to disadvantaged groups often express less strong or no in-group bias (see Raabe & Beelmann, 2011). This means that minority group children might perceive emotions very differently in an intergroup context. However, there is evidence that White as well as Black adults perceive less pain in Black adults and that this thus is related to status rather than racial bias (Trawalter, Hoffman, & Waytz, 2012). A similar sensitivity for status has also been shown to underlie intergroup preferences in children (e.g. see Shutts, 2015). To further understand whether the current findings are related to out-group status in general or the particular out-group studied, it is thus crucial to extend this work to minority status children and other group contexts (e.g. minimal groups, gender, other ethnic contexts). Relatedly, in the current work, we ask children to identify their in-group before thinking about intergroup emotions. This was done to create a somewhat more ecologically valid examination of the influence of the group context. After all, in real life children often receive more rich information on people's group membership (e.g. presence of visual information, people using group labels, languages people speak) making the group context more salient compared to the simple stories we presented children with. However, it is also important to assess to what extent children take into account the group context without making it salient. In addition, future studies should counterbalance the order of the stories, to avoid order effects.

In addition, research should focus on examining the link between children's emotion perception and their action tendencies in intergroup contexts. How does the difference in emotion perception affect

behaviour? For example, if children perceive out-group peers to suffer more in moderately negative situations, they might be more inclined to help them. This would be in line with previous research that shows children sometimes are more prosocial to disadvantaged peers (e.g. Elenbaas, Rizzo, Cooley, & Killen, 2016; Li, Spitzer, & Olson, 2014) and discriminate by helping out-group peers more than in-group peers (Sierksma, Lansu, Karremans, & Bijlstra, 2018). Additionally, including aspects of emotions into the developmental study of intergroup behaviour is also important because children themselves might experience emotions on behalf of the in-group, as is often shown in adults (see Mackie & Smith, 2015). There is some evidence that events affecting the in-group can influence children on an emotional level, because children feel ashamed themselves when in-group members are bullied (Jones et al., 2009) and extending this line of work will certainly provide us with a more in-depth understanding of children's intergroup behaviour.

An important aim of the study of intergroup biases in childhood is that, in the long run, we will be able to prevent discrimination and prejudice and stimulate positive interethnic peer relations. Our results show that children's emotion perception is already biased at an early age. Making children aware of this bias in emotion perception and teaching them how to combat it, should be an important aspect of interventions to stimulate positive intergroup behaviour from a young age onwards. Moreover, while the effectiveness of intervention programmes to reduce discrimination and prejudice are often evaluated in terms of cognitive aspects (e.g. see Aboud et al., 2012) the current research provides a reason to also evaluate effects on children's biases in intergroup emotions. This should provide research scholars, educators, and parents with in-depth knowledge on how to overcome prejudice early in life.

Disclosure statement

No potential conflict of interest was reported by the authors.

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